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ABSTRACT

Mattatuck Community College implemented non-punitive grading practices into its grading system in the Fall 1973 semester. These practices centered about the elimination of plus and minus grades, elimination of the grade of F, and liberalizing the course withdrawal policy to allow for withdrawal without penalty throughout the semester. A comparison was made of a sample of fity students who attended under the older traditional grading practices and a sample of fifty students who attended under the new non-punitive practices. The hypothesis of the study dealt with the grade point averages, persistence in college rate, and proportion of penalty and withdrawal grades to non-penalty grades. Findings indicate that the changes in grading practices had no significant effect on grade point averages or the proportion of penalty and withdrawal grades to non-penalty grades. A significant difference was found in the persistence in college rate of the two samples, the non-punitive grading system adversely affecting student registration for the second term. A threat to the internal validity of the study based on historical circumstances (end of Viet Nam war, end of draft, and state of the economy), is noted as a possible influence on this finding. (Author/AH)

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A STUDY OF THE RESULTS OF THE IMPLEMENTATION OF A NON-PUNITIVE GRADING PRACTICE AT MATTATUCK COMMUNITY COLLEGE

by

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MATTATUCK COMMUNITY COLLEGE

WATERBURY, CONNECTICUT

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TABLE OF CONTENTS

	page
INTRODUCTION	
I. Orientation to the problem	1
II. Statement of the problem	2
III. Background of the study	2
IV. Statement of the hypotheses	5
V. Rationale for the hypotheses	6
VI. Operational definitions of variables	7
VII. Significance of the study	8
METHODS	
I. Subjects	10
II. Independent variable	10
III. Dependent variables	12
IV. Control variable	12
V. Data analysis	13
DISCUSSION	
I. Conclusions	18
II. Recommendations	19
REFERENCES CITED	21

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I. ORIENTATION TO THE PROBLEM

Many colleges and universities in the country have modified their grading systems in the last few years. Mattatuck Community College joined this movement by introducing a change in the grading system from the traditional, punitive type to a non-punitive type. This modification primarily took the form of eliminating the grade of F and redefining the policy concerning withdrawal from a course.

Just about every member of the academic community has an opinion of how grading should occur. These new grading practices became effective for the Fall 1973 semester after acceptance by the faculty. A full year of discussion occured before its adoption, and already challenges are being voiced. It should be noted that the changes which have been made in the past several years have really only reflected the assignment of particular grades, but have not demonstrated an actual change in philosophy about grading.

It would be unfortunate if any changes were made again in the grading system without the benefit of research relative to its effectiveness. It will be the purpose of this study to examine the effects of the implementation of the non-punitive practices at Mattatuck Community College.

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II. STATEMENT OF THE PROBLEM

Several specific changes in the grading system were implemented for the Fall 1973 semester. These changes included the elimination of the grade of F, and the adoption of a more lenient W grade policy. The old grading system included the following grades:

A A- B+ B B- C+ C D+ D D- F I Au W

The new system, beginning with the Fall 1973 semester, includes the following grades:

A B C D I Au W

The old withdrawal from a course policy allowed a student to select a grade of W up to the tenth week of class. The new policy allows him to withdraw up to the last meeting of the class and also allows the instructor to assign the grade of W as a final grade.

The purpose of this study is to show the relationship between the changes in the policies concerning the grade of F and the grade of W on the grades recorded for comparable groups of students who functioned under each system.

III. BACKGROUND OF THE STUDY

Benjamin Bloom (1968) states that "most students (perhaps over 90 percent) can master what we have to teach them, and it is the task of instruction to find the means which will enable our students to master the subject under consideration." He further defines five basic variables for mastery learning strategies: 1) Aptitude for particular kinds of learning, 2) Quality of instruction,

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3) Ability to understand instruction, 4) Perseverence, and 5) Time allowed for learning. It is this latter variable that the new lenient withdrawal from a course policy addresses. Coupled with the elimination of the grade of F, the withdrawal from a course policy allows a student to repeat a course as often as is necessary to master the subject matter without being branded with permanent failure markings.

John Roueche (1972, p. 36) characterizes traditional grading as relegating the slower learner to the bottom of a grade distribution. He points out that when a student is graded against a group with whom he cannot compete he knows right away that the odds of success are against him. Since the community college is replete with the non-traditional student, efforts must be made to convince him that he no longer need fail. The lenient W grade and elimination of the grade of F at Mattatuck Community College is an attempt to end the dichotomy of dividing students into two groups -- approval by success or disapproval by failure. The open door nature of our college brings to us an unselected student population. The vast differences in academic, personal, and social backgrounds of the individual students demand innovative methods of instruction.

Roueche (1972, p. 45) holds that learning should be a systematic process which allows for individual learning rates and is directed toward increasing the learner's depository of relevant concepts, thereby increasing the effectiveness of his thinking. Roberts (1971, p. 113) proposes that this type of systematic approach to learning can be humanized. He holds that an effective climate can be created and learning can effectively be caused.

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He identifies four elements in his humanistic model. First, there must be a provision for the realization of self-concept. Both students and faculty must become aware and knowledgeable of their perceived selves and their concepts of adequacy. Both students and faculty must be oriented to learning activities. Secondly, a physical environment for learning must be created. Learning does not necessarily occur only in the formal classroom, but may also occur in unconventional spots. These physical places for learning can be encouraged by appropriate building of informal learning centers. The third element is the calendar for learning. Dr. Roberts advocates an open ended calendar where the student's rate of learning is recognized and not forced to conform to a predetermined schedule. Lastly, there must be a non-punitive philosophy for learning. The grading system should not contain the concept of failure. Performance is either adequate or not recorded. When an acceptable level is achieved for which a grade of C or better can be assigned, the student is rewarded with the appropriate grade. Dr. Roberts asserts that these four elements help create a positive climate for learning.

It is to the last element of Roberts' humanistic model for learning that the changes in Mattatuck's grading practices are directed. The college has not attained this goal as the grade of D remains. In a sense, the new withdrawal from a course policy addresses Roberts' calendar of learning. The policy at least allows a student to start again.

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IV. STATEMENT OF THE HYPOTHESES

Three hypotheses have been formulated for this study:

A. The mean of the grade point averages recorded for first and full time freshmen of the Fall 1973 semester under the non-punitive grading system will be higher than the mean of the grade point averages recorded for first and full time freshmen of the Fall 1972 semester under the punitive grading system.

While this result may seem obvious as the new system does not include a grade of F with zero (0) quality points, it leads to a second hypothesis:

B. The persistence in college rate for first and full time freshmen of the Fall 1973 semester under the non-punitive grading system will be higher than the persistence in college rate for first and full time freshmen of the Fall 1972 semester under the punitive grading system.

A third hypothesis will reflect the use of the W grade by students. Specifically it is hypothesized that:

C. The proportion of penalty and W grades to the non-penalty grades for first and full time freshmen of the Fall 1973 semester with the non-punitive grading system will be greater than the proportion of penalty and W grades to the non-penalty grades for first and full time freshmen of the Fall 1972 semester under the punitive grading system.

V. RATIONALE FOR THE HYPOTHESES

From an arithmetic standpoint the grade point averages for students affected by the new grading system can be expected to be higher than for students under the old system. The reason for this is that without a grade of F, zero quality points will not be averaged with other grades.

More importantly it can be expected that freshmen student persistence in college as measured by registration for the succeeding semester will be greater for students with the new system. A major purpose of the elimination of the grade of F is to convince the non-traditional student that he need not face failure in the academic world if particular circumstances prevent him from attaining success. While some may perceive the grade of W as a failure grade, it generally receives too broad an interpretation by students and staff to be considered punitive. There are too many other circumstances which warrant the assignment of a W grade. If this is in fact true, the student who receives W grades in his first collegiate semester may well return the next semester to try again. Aside from the beneficial academic arguments for a more positive self-concept, the registration of these students in the immediately succeeding semester positively affects enrollment.

The concern has been expressed by many faculty members that students will abuse the new lenient withdrawal from a course policy. They expect that this might encourage irresponsibility with regard to persistence in a particular class. Students who

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could succeed in a class might withdraw without really trying to earn at least a C. Acceptance of the third hypothesis of this study would support this concept. Rejection of it would indicate that students are not "copping out", but that they are in fact using the system to its non-punitive advantage.

VI. OPERATIONAL DEFINITIONS OF VARIABLES

A. Independent Variable

The independent variable for each hypothesis reflects the changes in the grading system. Beginning with the Fall 1973 semester a non-punitive grading system with a lenient withdrawal from a course policy was used. The earlier system employed may be termed a traditional, punitive grading system with a restrictive withdrawal from a course policy.

B. Dependent Variables

1. Mean of the Grade Point Averages: The Grade Point Averages (GPA) arithmetically describes the numerical average of the letter grades. It is calculated by dividing the number of quality points by the total number of semester hours of work taken.

2. Persistence in college rate: Persistence in college reflects the student's choice of whether or not he registers as a full time student for the immediately succeeding semester.

3. Proportion of penalty and withdrawal grades to non-penalty grades: For the purposes of this study penalty grades are defined as D+, D, D-, and F. A grade of W reflects withdrawal from the course.

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C. Control Variable

Each part of this study will be based on a sample of first and full time freshmen students enrolled in a Fall semester. Students who have had previous collegiate experience at Mattatuck or elsewhere will not be included. Grade point averages, therefore, will be based only on the work completed that semester and the students will only have had experience with one type of grading system.

The internal validity of this design is threatened by several variables. As the two groups were selected in different years, the element of history challenges the hypotheses. It is realized that any difference between the two groups could well have come about through the differential recruitment of new students. Other than excluding students who have had previous college experience, no attempt has been made to match the students of the two groups on their background characteristics. (Campbell, 1963, p. 6)(Tuckman, 1972, p. 74-77)

VII. SIGNIFICANCE OF THE STUDY

In its seven year history Mattatuck Community College has overhauled its grading system three times. The Fall semester of 1973 saw the most dramatic change with the introduction of the concept of non-punitive grading. While this system has only been in effect for one academic year, there is a reactionary movement on the part of some faculty to return to a more traditional

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form of grading. Because of the college's rapid growth a research project concerning grading has never been undertaken. It would indeed be unfortunate if a regressive move were made based solely on personal opinion and emotional decisions. If this study sheds light on some of the effects of non-punitive grading, it will be of great value to the educational problem of grading.

The chief purpose of education is to serve the society which supports it. Basic to the emergence of the community college is the need of our complex, highly industrialized society to have the largest possible proportion of its citizenry learn effectively those skills and subject matter which are essential for their own development and the development of the society. Our goal should be the provision of successful and rewarding educational experiences for 90 percent of the students in our midst.

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METHODS

I. SUBJECTS

Subjects for this study have been chosen by random selection from the rosters of all College Seminar classes of each Fall semester involved. College Seminar is a six week introduction to college course required of all first and full time freshmen. As full time transfer students are also required to take the course, the folders of all members of the sample have been reviewed to determine previous college experience. If a transfer situation existed, the student was eliminated from the sample. This was an attempt to control for history bias when comparing each group.

The sample size for each of the two groups (Fall semesters 1972 and 1973, first and full time freshmen) has been arbitrarily set at 50. When the names of the subjects were determined, the researcher manually retrieved their records from the Records Office and posted their grades on a tally sheet. The fact of their registration or non-registration as a full time student in the succeeding semester was also recorded.

II. INDEPENDENT VARIABLE

The independent variable is the grading system. There are two levels of this variable. This is a Type C operational definition and involves a Nominal Measurement Scale.

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A. The 1972-1973 grading system (Mattatuck, 1972, p. 19):

A	= Superior	4.0	quality points
A-		3.7	" "
B+		3.3	" "
B	= Above average	3.0	" "
B-		2.7	" "
C+		2.3	" "
C	= Average	2.0	" "
D+		1.3	" "
D	= Pass	1.0	" "
D-		0.7	" "
F	= Failure	0.0	" "
I	= Incomplete		
Au	= Audit		
W	= Withdraw		

Quality points for I, Au, and W grades are not computed.

Withdrawal from Course Policy: "Students may withdraw from one or two courses and still remain in college. They may do so up to two (2) weeks after mid-term examinations have been completed. A withdrawal from any course or courses in this prescribed time may be accomplished without penalty and a grade of 'W' will be recorded." (Mattatuck, 1972, p. 20)

B. The 1973-1974 grading system (Mattatuck, 1974, p. 20)

A	= Superior	4.0	quality points
B	= Above average	3.0	" "
C	= Average	2.0	" "
D	= Pass	1.0	" "
I	= Incomplete		
Au	= Audit		
W	= Withdraw		

Quality points for I, Au, and W grades are not computed.

Withdrawal from Course Policy: "Students may withdraw, at any time, from some courses and remain in college. A withdrawal from a course may be accomplished without penalty and a grade of 'W' will be recorded." (Mattatuck, 1974, p. 21)

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III. DEPENDENT VARIABLES

A. Mean of the Grade Point Averages:

The mean of the GPA for each group was computed by totaling the number of quality points earned by the sample and dividing by the total number semester hours of work taken by the sample.

B. Persistence in college rate:

Persistence in college was measured by the fact of registration or non-registration for classes as a full-time student in the immediately succeeding Spring semester.

C. Proportion of penalty and W grades to non-penalty grades:

Penalty grades for 1972 include D+, D, D-, and F. The penalty grade for 1973 was D. The proportion computed was the number of penalty and W grades recorded for the sample divided by the non-penalty grades recorded for the sample.

IV. CONTROL VARIABLE

Each part of this study has been based on a sample of first and full time freshmen students enrolled in a Fall semester. Students who have had previous collegiate experience at Mattatuck or elsewhere have not been included. Grade point averages, therefore, have been based only on the work completed that semester and the students have only had

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experience with one type of grading system.

V. DATA ANALYSIS

A. Research Design

This is an ex post facto study, criterion-group design.

It may be depicted as follows:

$$\frac{C_1 \quad O_1}{C_2 \quad O_2} \qquad \frac{C_1 \quad O_3}{C_2 \quad O_4} \qquad \frac{C_1 \quad O_5}{C_2 \quad O_6}$$

C_1 = First and full time freshmen Fall 1972

C_2 = First and full time freshmen Fall 1973

O_1 = Mean of grade point averages of C_1

O_2 = Mean of grade point averages of C_2

O_3 = Persistence in college rate of C_1

O_4 = Persistence in college rate of C_2

O_5 = Proportion of penalty and W grades to non-penalty grades of C_1

O_6 = Proportion of penalty and W grades to non-penalty grades of C_2

B. Procedures

1. Hypothesis I

a. Directional form:

The mean of the grade point averages recorded for first and full time freshmen of the Fall 1973 semester under the non-punitive grading system will be higher than the mean of the grade point averages recorded for first and full time freshmen of the Fall 1972 semester under the punitive grading system.

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b. Null form:

There is no difference between 1) the mean of the grade point averages of the Fall 1973 semester under the non-punitive grading system and 2) the mean of the grade point averages of the Fall 1972 semester under the punitive grading system.

c. Resulting data:

1.) A test of the significance of the difference of the means of the grade point averages was made with a t-test. A worksheet for the t-test follows:

Group	1(1972)	2(1973)
N	45	39
ΣX	100.34	99.27
ΣX^2	263.11	250.04
$\bar{X}$	2.22	2.54
s^2	.89	.36

2.) While the sample size was 50 for each group, the above N's reflect student withdrawal from college.

3.) Calculated t = 1.77 df = 82

4.) Critical value of t = 2.0 at a .05 level of significance.

5.) Conclusion: Since the calculated value of t does not exceed the critical value of t at the .05 level of significance, the null hypothesis cannot be rejected; there is no significant difference between the mean grade point averages of the two groups of students.

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2. Hypothsis II

a. Directional form:

The persistence in college rate for first and full time freshmen of the Fall 1973 semester under the non-punitive grading system will be higher than the persistence in college rate for first and full time freshmen of the Fall 1972 semester under the punitive grading system.

b. Null form:

There is no difference between 1) the persistence in college rate for first and full time freshmen of the Fall 1973 semester under the non-punitive grading system and 2) the persistence in college rate for first and full time freshmen of the Fall 1972 semester under the punitive grading system.

c. Resulting data:

1.) A test of the significance of the difference of persistence in college rates of the 2 groups was made by a Chi-square analysis. A worksheet for the Chi-square follows:

	Return	Non-return
1972	42	8
1973	31	19

N = 100

2.) Calculated $X^2 = 5.073$ df = 1

3.) Critical value of $X^2 = 3.84$ at a .05 level of significance.

4.) Conclusion: Since the calculated value of X^2 exceeds the critical value of X^2, the null hypothesis is rejected, and the alternative hypothesis is accepted;

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there is a significant difference between the return rates of the 1972 and 1973 samples. However, the direction of the alternative hypothesis is not in the expected direction. While there is a significant difference, the greater persistence rate occurred in the 1972 class.

3. Hypothesis III

a. Directional Form

The proportion of penalty and W grades to the non-penalty grades for first and full time freshmen of the Fall 1973 semester with the non-punitive grading system will be greater than the proportion of penalty and W grades to non-penalty grades for first and full time freshmen of the Fall 1972 semester under the punitive grading system.

b. Null form:

There is no difference between 1) the proportion of penalty and W grades to the non-penalty grades for first and full time freshmen of the Fall 1973 semester with the non-punitive grading system and 2) the proportion of penalty and W grades to the non-penalty grades for first and full time freshmen of the Fall 1972 semester under the punitive grading system.

c. Resulting data:

1.) A test of the significance of the difference of penalty and withdrawal grades to non-penalty grades was made by a Chi-square analysis. A worksheet for the Chi-square follows:

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	Penalty & W	Non-penalty
1972	90	208
1973	99	188

N = 585

2.) Calculated X^2 = .1437 df = 1

3.) Critical value of X^2 = 3.84 at a .05 level of significance.

4.) Conclusion: Since the calculated value of X^2 does not exceed the critical value of X^2, the null hypothesis cannot be rejected; there is no significant difference between the proportion of penalty and withdrawal grades and non-penalty grades for the 1972 sample and the 1973 sample.

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DISCUSSION

I. CONCLUSIONS

A. Hypothesis I:

It was found that there was no significant difference between the mean grade point averages of the two groups. Assumptions may not be made that the changes in the grading system have significantly increased the grade point averages of the students involved in the study.

B. Hypothesis II:

It was found that there was a significant difference in the persistence rates of the two samples. It would appear that the changes in the grading system significantly decreased the persistence rate, but it must be remembered that the internal validity of the study was threatened by the element of history. Uncontrolled in the study were factors relating to the end of the Vietnam War, end of the draft, and state of the economy. It may not be assumed that the changes in the grading system were the only determinants in the persistence rate of students.

C. Hypothesis III:

It was found that there was no significant difference between the proportion of penalty and withdrawal grades to non-penalty grades between the two groups. The challenge to the new grading system that students are abusing the system by attaining a greater number of W grades under it than under the old punitive grading system is not valid.

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Students do not appear to be "copping out" in an irresponsible fashion at a different rate under the new system than they had under the old system.

II. RECOMMENDATIONS

The results of this study suggest a need for continued research at Mattatuck in the area of grading. It is recommended that the study be replicated on a broader base of a larger sample and additional years of experience of grading under the new grading practices. This type of research might be accomplished on a department basis so that individual faculty members might more closely identify their understanding and use of the concepts of non-punitive grading.

Grading practices frequently evoke emotional reactions among faculty, and intellectual decisions concerning changes may be difficult to make. Mattatuck Community College has only scratched the surface of a non-punitive grading system. Further modifications of the grading system, such as the elimination of the grade of D should be explored.

Additional research should be conducted concerning the retention of new students. This study did not attempt to isolate the reasons why first time students chose not to register for a second semester at the college. Perhaps positive effects of these grading practices were overshadowed by societal changes beyond the college.

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It is recommended that the Standing Committee on Admissions and Student Standing utilize this report in its contemplation of future changes in grading practices. As this research is the first college-wide attempt to objectively evaluate the effects of the grading practices at the college, additional research in this area is advocated.

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